BLI

Solutions Report

A BLI Output Management Software Assessment | JANUARY 2011

NT-ware uniFLOW V5

Feature Set	★★★★★
Value	★★★★½
Ease of Administration	★★★★☆
Data Analysis and Reporting	★★★★★
Ease of Use	★★★★★
Compatibility	★★★★½
Software Integration	★★★★½
Security	★★★★★
Reseller Support and Training	★★★★★
Customer Support and Training	★★★★★
Documentation	★★★★½
Global Business Readiness	★★★★★
Upgrade Path	★★★★★

OVERVIEW

uniFLOW V5 is a wide-ranging output management solution that offers cost recovery, print management, job routing, scan workflow and document security features. Developed by NT-ware Systemprogrammierung GmbH and sold exclusively through Canon, the modular platform offers a multitude of components designed to meet the needs of both large and small enterprises that require an advanced output management platform.

uniFLOW V5 (formerly called uniFLOW Output Manager) is available in four different versions: Workgroup Edition, Business Edition, Corporate Edition and Enterprise Edition. The only difference between the editions is the number of user licences they offer. Each one comes with the core product and a module of the customer's choice, with additional modules available at extra cost. Promoted by Canon as a flexible solution, uniFLOW V5 scales from small businesses to global enterprises, and has found success in corporate and public sector organizations.

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Product Profile

Product:	uniFLOW
Version:	V5
Software Developer:	NT-ware Systemprogrammierung GmbH
Server Requirements:	2-GHz Pentium III CPU (Core2 Duo recommended); 512-MB RAM (2-GB recommended); 4-GB hard drive space (40-GB recommended); Microsoft Windows 2000 Professional, XP Professional, Server 2003, or Server 2008. (Note: Windows XP and 2000 Professional have a limitation of 10 simultaneous TCP connections; if more than 10 concurrent connections is required, Canon recommends using a Windows Server edition operating system).
Client Requirements:	Microsoft Windows 2000, XP Professinal, Vista, Windows 7.
Supported Devices:	All Canon printers and MFP devices and HP single-function printers are supported by default. Devices from other vendors are supported via uniFLOW V5's DIF (Device Information Files), which are created from device PPD files. (Note that the vendor recommends its "certified experts" handle DIF file creation, as it demands thorough knowledge of the software, machine types and PPD options. Canon says it offers DIF programming at no charge.)
Suggested Retail Pricing:	Note: Prices are for Germany and subject to change
Workgroup Edition:	1.296 EUR for server software for up to 10 concurrent users and one module (810 EUR for each additional module)
Business Edition:	2.322 EUR for server software for up to 50 concurrent users and one module (810 EUR for each additional module)
Corporate Edition:	4.186 EUR for server software for up to 150 concurrent users and one module (1.836 EUR for each additional module)
Enterprise Edition:	7.426 EUR for server software for an unlimited number of users and one module (2.998EUR for each additional module)
Availability:	The solution is available directly from Canon and authorized Canon resellers.

What We Thought

★★★★★

uniFLOW V5 is an extensive and feature-rich solution that addresses a number of document security, routing, print management and cost control/recovery needs. The modular nature of the platform may seem daunting at first—there are a total of 13

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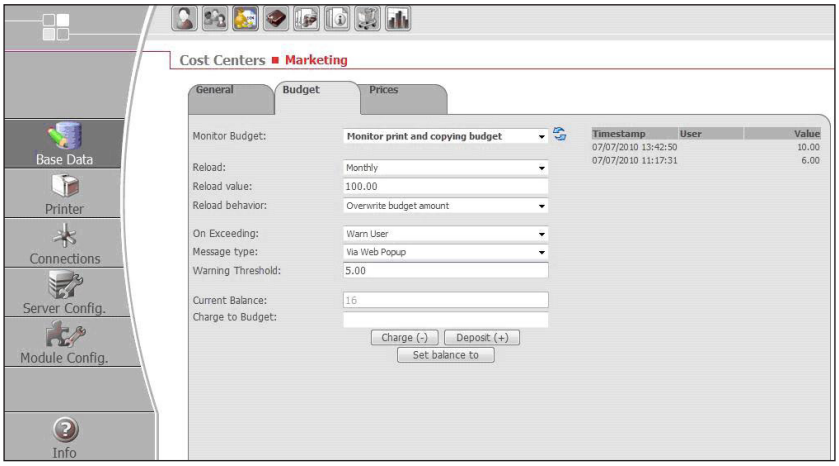
modules available, covering an array of functionality—but it also means customers can tailor the product to their particular situation, paying only for the functionality they need and adding additional capabilities as needs evolve and budgets allow.

The key advantage of uniFLOW V5 is that it allows customers to have a single, unified solution to handle a range of tasks that would otherwise require multiple software packages, each with their own server, client and embedded MFP components. The platform's functionality is wide-ranging and includes secure "follow me" printing, accounting and chargeback, rules-based document routing, job ticketing, and even customizable scan workflow programming. The breadth of output management requirements uniFLOW V5 can fulfill make it unique among document imaging solutions BLI has tested to date, and the reasonable pricing makes it affordable for deployment even in small companies or departments within larger organizations.



With uniFLOW, organizations can set and enforce print budgets by user or department to track and help reduce costs.

There are many opportunities for significant cost reduction through an efficient use of uniFLOW. Extensive reporting options (available with the Statistics module) allow administrators and department heads to identify and reduce waste. It also allows them to implement a reward program for good practice, with reports allowing for easy identification of users who have reduced printing costs or chosen low-cost printing options such as duplex printing, centralized printing options versus expensive personal printers, and reducing color output, among others.

Customizable rules-based printing allows administrators to assign print policies based on workflow, with, for example, the ability to force all printing of Outlook e-mail to monochrome, thereby removing the risk of hyperlinks or company logos in the e-mail text generating a full-color click charge. Extensive rules-based routing capabilities and access control list (ACL) linking to specific users or devices can also limit personal and unauthorized usage of output devices, further reducing print waste.

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One disadvantage of the platform is that its expansive capabilities make it a complex solution to deploy. The silver lining, however, is that uniFLOW V5's ability to manage myriad functions under one umbrella can ultimately reduce complexity for IT administrators versus the alternative of managing disparate individual applications and maintenance agreements from multiple vendors.

Strengths

- Modular nature allows customers to deploy functionality as needed
- Capability to manage print and scan workflow in a single integrated solution
- Floating user pricing model keeps costs low relative to deploying individual solutions from various vendors
- Cost-center allocation printing for unlimited number of clients included within entry-level price
- Embedded OCR and barcode recognition capabilities offer feature-rich scan workflow opportunities, such as custom routing and advanced security control
- Accounting and routing features can be used with networked or locally connected devices
- User can change print settings of secure print jobs at time of release
- One server supports unlimited number of devices
- All major client-PC browsers supported across Windows, Macintosh, Linux and Unix
- Full integration with Canon Helix PW back-office production workflow
- Integration with Canon iW Secure Audit Manager
- Range of customizable reports with the Statistics module

Weaknesses

- For accounting/cost-recovery features, embedded integration with third-party MFP vendors is more limited than some competing solutions
- DIF programming to support other printer brand integration with the uniFLOW Universal Driver is complex
- No ability to associate cut-sheet custom media with a pricing profile (apart from a few defaults)
- No wizard feature for custom scan workflow programming available

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Feature Set

★★★★★

uniFLOW V5 is a modular output management solution—with 13 components in all—offering a diverse range of capabilities, from print auditing to sophisticated cluster printing and job ticketing for printrooms. The scope of the suite is ambitious to say the least, with capabilities including:

- **Statistics** – Provides extensive reporting capabilities with charts and graphs to illustrate output behavior trends and costs
- **Cost Control** - Provides effective controls over print and copy behavior across an output fleet
- **Cost Recovery** - Charge output expenses to clients or departments to recoup costs
- **Desktop Accounting** – Allows the monitoring and accounting of print jobs sent from locally connected printers (LPT or USB). Please note Desktop accounting is a separate uniFLOW module which requires Statistics module
- **Secure Printing** – Holds jobs at the server and releases them only after user authentication at a printing device
- **Rules and Routing** – Allows for creation of printer clusters and automatic routing of jobs based on device condition (offline or online), cost or job size, or color and monochrome document content
- **Internet Gateway** – Enables printing budget recharge via PayPal and also submit secure print jobs via the Internet.
- **External Budget Connector** – Allows uniFLOW V5 to connect to external third-party accounting packages (requires Statistics module)
- **Biometric Authentication** – Available in some markets, this module provides fingerprint sensor integration for use with the secure print release module
- **Server Clustering** – Allows clustering of multiple uniFLOW V5 servers to provide fail-over in large organizations running Enterprise edition

There are also a range of optional uniFLOW components, including:

- **uniFLOW MEAP Device ID** – Integrates uniFLOW with MEAP-enabled Canon MFPs, allowing for cost center selection, scan workflow selection, and “follow me” print release (whereby users can release their print jobs from any uniFLOW connected device on the network after authenticating
- **Job Conversion Instance** – Converts jobs into PDFs at server level, creates preview and thumbnail images, and allows for pre-RIPing to reduce delays
- **Remote Print Server** – Allows tracking of print jobs on remote Windows and Novell print servers at satellite sites, relaying accounting data for statistical analysis

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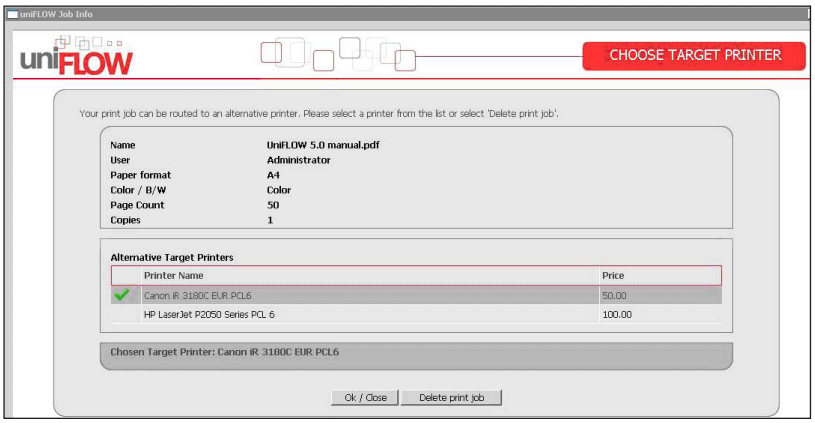
- **Scan Processing Server licence** – Allows creation of scan workflows that can be accessed from Canon MEAP-enabled devices. Requires scan volume license and a MEAP scan license per MEAP device

For most office environments the stand-out features of uniFLOW V5 will be the accounting capabilities. The program tracks print, copy, fax and scan page counts. uniFLOW V5 can discern track page sizes separately, as well as accurately track color and black-and-white pages mixed into a single document. Quotas can be set by user or department, and administrators can restrict printing from certain applications (for example, to disallow printing in color of Web pages). For chargeback, administrators can set different prices based on page size and color/black-and-white pages.



Administrators can set rules that automatically re-route a job from a high cost-per-page device to a more economical one on the network.

Unlike many (though not all) accounting packages, uniFLOW V5 also offers job re-routing features. This allows administrators to set rules that automatically re-route jobs to lower-cost-per-page devices (from a local ink jet printer to a networked laser MFP, for example) when appropriate. Another welcome feature is the secure "follow me" printing, which allows a user to send a print job to the uniFLOW server and release it at any device on the network. This ensures that sensitive jobs don't sit in the output tray of a central printer or MFP, and also gives users the flexibility to choose an output device after the job is sent. And unlike some solutions that offer "follow me" capabilities, uniFLOW V5 lets the user change output settings at the chosen device, rather than adhering to the selections made in the print driver when the job was submitted.

Another excellent feature is the Statistics module's reporting capabilities, which allow for pre-defined and customized macro- and micro-level monitoring of print costs throughout the organization. With V5, the company has discontinued the production print/CRD modules that offered functionality such as job ticketing and Web-based job submission, but uniFLOW does integrate with the Helix Production Workflow solution, which does offer those abilities.

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New and enhanced features in uniFLOW V5:

- Decision-based workflow objects allow several workflows to be executed
- Customized workflows developed by IT departments can be pushed to an organization's entire fleet
- Universal Driver enhanced with booklet printing and mixed media mode
- Integration with Canon iW Secure Audit Manager to both deter and prevent any unauthorized scanning or duplication of hardcopy or digital documents and to quickly identify unauthorized disclosure of confidential information
- Integration with Canon Helix PW back-office workflow application
- Support for Canon imageRUNNER 2500 Series products and third-party embedded applets
- SQL Connector for import/export of accounting and user data to/from backend systems
- Budget Web Page: A web page for non- IT administrators to add/remove printing budgets

Value

★★★★½

The highly modular makeup of uniFLOW means that it can be installed at a relatively low cost into a small business or department within a larger organization, with customers able to upgrade to larger license packages or add more modules as required. uniFLOW is available in four packages, each including a different number of concurrent licenses (note that prices are for Germany and subject to change):

Workgroup Edition: 1.296 EUR for server software for up to 10 concurrent users and one module (810 EUR for each additional module)

Business Edition: 2.322 EUR for server software for up to 50 concurrent users and one module (810 EUR for each additional module)

Corporate Edition: 4.186 EUR for server software for up to 150 concurrent users and one module (1.836 EUR for each additional module)

Enterprise Edition: 7.426 EUR for server software for an unlimited number of users and one module (2.998EUR for each additional module)

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In addition to the user licenses, those packages include the core server software, support for an unlimited number of devices, and one module of the customer's choosing. While the price-per-user for the Workgroup and Business Editions is higher than the leading accounting/cost recovery solution, uniFLOW V5 still represents a very good value considering you get more than just accounting functionality, and given the extensibility of the platform to other output management and document security areas. Support and maintenance is included for the first year, and priced by the local operating company thereafter (though Canon reports the fee is typically the industry-standard 18 percent of the deployment cost).

The price of the MIND (card and PIN secure release) and microMIND (card only secure release) external authentication hardware for single function printers and NON-MEAP enabled multi-function devices, which facilitates secure follow-me printing, is $961. That's competitive with the price of a secure printing solution from a rival vendor.

uniFLOW is priced on a floating license model rather than on a per-seat basis, as found in some rival systems. This model is very similar to a concurrent user license except that each account is locked for 15 minutes after a user logs off. The floating user license model means a company with more employees than the total number of licenses could still use the system if cost saving was of paramount importance. There would of course be a risk of users being locked out when trying to use the system, if all licenses had been in use within the 15-minute period.

Ease of Administration

★★★★☆

uniFLOW V5 is a complex installation, involving servers, output devices, external terminals, client applications and, in some cases, multiple locations. As such, setup and installation are generally performed by either Canon direct or a qualified reseller under an extra-cost professional services arrangement. Our installation took about three-quarters of a day to complete, but keep in mind that most installations will be larger and could take days in large enterprise organizations depending upon customer requirements, local/global network infrastructure, and so on. Canon advised that a great deal of pre-installation programming can be carried out offsite to limit installation time.

A uniFLOW V5 installation requires a SQL Server database on the back end. uniFLOW can use an existing SQL Server database, or the included Microsoft SQL Server 2005 Express Edition can be installed during setup. The basic license must be activated first by entering the license code within the Module Config utility. Once confirmed, the individual modules (one comes free with the basic license) can be activated. Licensing of uniFLOW V5 can be bound to the ID of the server/computer, or to the ID of a USB dongle, should the user wish to move the licenses among computers.

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A key differentiator of uniFLOW V5 versus some print accounting solutions is that a client application does not have to be installed on the PCs of every user whose printing needs to be charged to a cost center. Users simply use their Internet browser to access the uniFLOW application. Administrators can, however, opt to install a desktop client application if they prefer. An MSI utility wizard in the client submenu of the connections menu system of the uniFLOW Server application allows an administrator to create a file for centralized distribution and installation. Alternatively, installation for a workstation can be accomplished by entering the IP address of the server during installation.

An optional uniFLOW V5 Server Clustering module (available for the Business, Corporate and Enterprise edition) allows multiple uniFLOW V5 servers to be clustered into a single virtual server, providing fail-over and load-balancing capabilities. Multisite locations can benefit from the Remote Print Server module, which allows satellite locations with print servers to conduct local accounting and print control without the need for the higher level SQL and Web server activities, and to forward accounting information back across the corporate network/WAN/VPN, greatly reducing the bandwidth incurred.

One of the key strengths uniFLOW V5 is the breadth of applications that can be managed via one console, which makes for easier administration and support. Day-to-day management of the server can be conducted via the Web utility. The server utility is driven by a slidebar with five menu icons (Base Data, Printer, Connections, Server Config and Module Config). Administrators will spend most of their time working under the 'Base Data' menu, where they can set up users, groups, cost centers and price profiles; manage budgets and create reports (if they have the Statistics module installed).

The administration console features various tabs that give access to program setting for users, printers, configurations and more.

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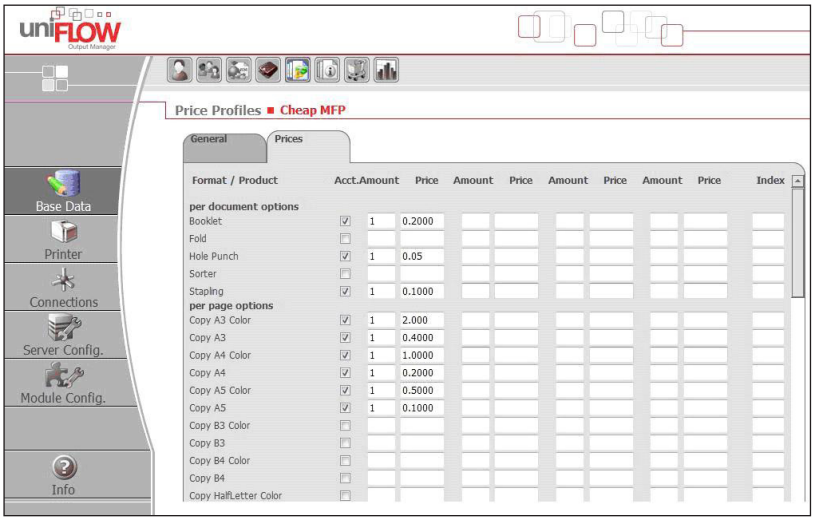
Under User, administrators can create new users, associate users into groups, allocate cost centers they can bill against, assign budgets to users and pricing profiles to devices, and create customized workflows—all of which were easy to accomplish. The same actions can be applied under Group, but are aided by the filter feature, which allows the administrator to filter users by various criteria (including number, name, logon, standard group and standard cost center). Once information is filtered, the administrator can take advantage of the Change All feature, which allows for changes to be made across all the filtered entries in a single action, greatly streamlining management, budget updates and changes in cost center allocations. Entering cost center and group names into the filter require manual free text entry, however. BLI would prefer a drop-down selection be offered to save time and reduce the chance of data entry errors. Administrators can also take advantage of uniFLOW's ability to integrate with LDAP, allowing new users included in Active Directory to be added to the uniFLOW database, automating a lot of the manual user/cost center management administration.

Within Cost Center, administrators can create cost centers, allocate a manager, and assign budget and pricing profiles. Administrators can set up multi-tiered cost centers, which can be a great help in complex project work, cost tracking, or for billing of clients with multiple divisions or departments. Within the workflow composer, the administrator can set up a rule whereby large print jobs have to be authorized by the cost center manager prior to release. BLI found this Boolean rules-based programming intuitive and quick to set up. According to NT-ware, the process will be more wizard-driven in later releases, making it even more intuitive.

Under Budget, administrators can allocate funding at a user, group and cost center level with auto-reload conditions, and set up different warnings and actions to occur when thresholds are approached or have been exceeded. Actions include the ability to raise a warning pop-up, but allow for continued operation and to lock out access until further budget is secured, among others.



uniFLOW gives very granular control over cost-per-page settings, allowing administrators to create custom pricing profiles.

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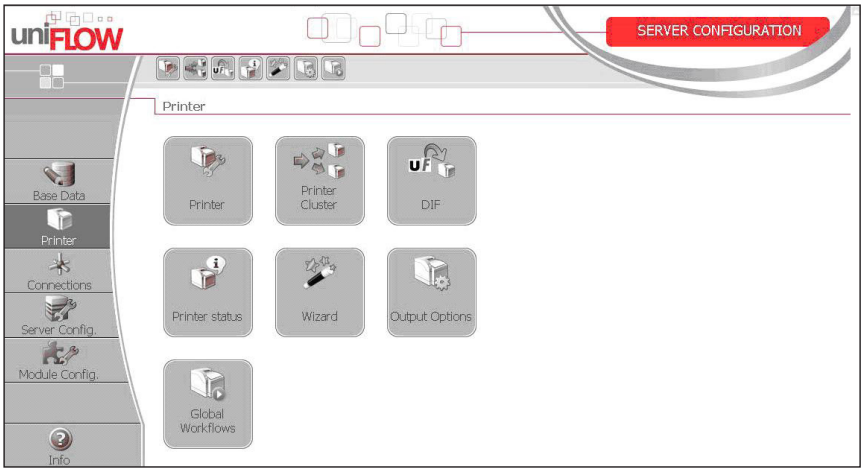
The Price Profiles tab allows administrators to create pricing profiles that can be applied to users, groups, cost centers or to individual devices as required. Pricing options are broken down into per document, job, or page items. The first items allow pricing for booklets, fold, staple and sorter tasks per document; the second ones allow for pricing of wide-format inks per 1000ml; and the third items are divided into copy, print, fax and scan, with the ability to allocate different pricing options for different media sizes, color or mono, simplex or duplex, selected paper types, paper sources and paper area (for wide format devices), and more. Users selecting duplex can be rewarded with lower cost printing by entering a minus value in the duplex pricing row, thereby reducing the overall cost per page charge, which could be valuable as companies seek to reduce paper costs and improve environmental credentials. Pricing profiles can also be set up for wide-format printing by square inches or centimeters in color and monochrome. Alternative pricing profiles (up to four), which can be used for other internal tracking and accounting purposes such as associating the additional costs with the office equipment provider (lease/cost per page rates and so on), can also be created.

The Statistics tab provides administrators with a wide variety of predefined reports and the ability to custom design new reports (see 'Data Analysis and Reporting'). BLI found the management of large amounts of Base Data (that is, data on users, groups and devices) information was aided by a control tab to the top right of the list that enables making a blanket change to all items in one action, and a filter facility that makes it easier to navigate to items that need to be edited.

The other main area of the server utility that is likely to be used on a regular basis by administrators is the 'Printer' tab. Within this menu administrators can add new printers to the system, create least-cost routing workflows, secure printing workflows, printer clusters, scan workflows, and much more, aided by a comprehensive wizard utility.



Under the Printer tab in the admin console, administrators can add printers, deploy workflows, see device status and more.

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Under Printer, administrators can see the list of workflows, make changes to them, and create new entries, using the Printer Wizard (see below for more). Within the Printer Cluster tab administrators can create clusters or groups of printers with a choice of two types of routing in the case of a device failure: Failover Any, which routes print jobs to the device with the highest priority in a given cluster); or Failover Use Original, which routes jobs to a selected default device.

Within the DIF tab administrators can select, edit and create new device information files (DIFs) to associate with printers on the system. DIFs associate print command instructions in the device PPD native file to the printer output options found within the uniFLOW V5 Universal Driver. With these instructions linked, secure follow-me printing and least-cost routing are made more feature-rich and error-free versus rival solutions, with which jobs are submitted to the central server from the native printer driver, possibly resulting in errors when the destination printer does not utilize the same print instruction coding as the driver. DIFs for all Canon devices (with a few exceptions) and all HP single-function printers are included as standard and are locked (that is, they cannot be changed). New DIFs can be created for devices not supported out of the box by uniFLOW. To create a new DIF the PPD for the target printer/MFP must be downloaded and the commands in the PPD list associated with the Universal Driver printer commands. NT-ware provides a Web portal (http://www.nt-ware.net/difportal) where new DIFs are posted in between Service Releases of uniFLOW for new Canon and third-party manufacturer devices. Requests for this DIF support are managed by Canon on behalf of the customer. Canon advises that DIF PPD creation can be done by customers.

Within the Printer Status tab the administrator can see the list of printers with a color-coded indicator indicating their status and, where available, a hyperlink directly to the devices internal Web server. Under Output Options, the administrator can view the list of all devices, and by clicking on the entry make changes to the DIF settings and specify media in each of the output locations.

The creation of new printers is best conducted on the Wizard tab, which walks the administrator through the process. The number of options is determined by the modules installed. Wizards range from the basic accounting-only printer installation through to complex interactive rules-based routing printer workflows.

A key differentiator between uniFLOW V5 and rival products is the degree of customization available, made possible through the workflow editor. BLI recommends using a wizard initially when creating new workflows, which ensures that background settings are all set up correctly. Once a workflow is established, the administrator can go back to the workflow, change the wizard to Advanced Printer Configuration and then gain access to the Workflow Editor. The scope of the options available is determined by the modules installed. The wizard allows administrators to add, remove and edit individual steps in the workflow process. We were impressed by the flexibility offered, but believe users would benefit from a higher level of guidance when programming custom workflows. The workflow editor allows administrators to program a workflow in a single series-linked sequence and to set up logical workflow schematics, similar in look and feel to Microsoft Visio.

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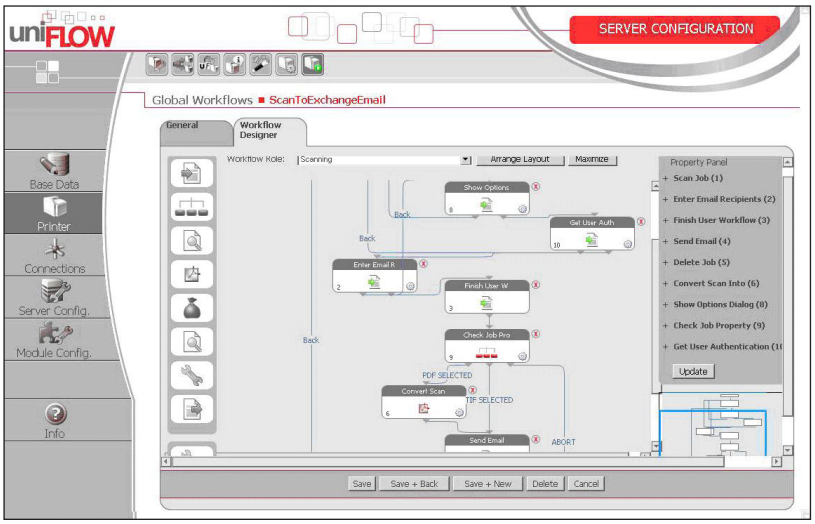
New to the latest version in some markets is the ability to create scan workflows. This capability requires the purchase of a Scan Processing Server License. It includes the I.R.I.S. iDRS scanning engine, which is used for scan processing such as bar code recognition and OCR conversion into 137 languages. The organization will also require a Scan Volume Package licence, which is available in three levels: 20,000 pages per month, 60,000 or 100,000+, which can be combined for added flexibility. Each MFP also needs to have the uniFLOW Scan Device License for MEAP installed.



uniFLOW's Workflow Designer makes it fairly straightforward to create print and scan workflows.

Workflows are created within the Global Workflows tab. The method of creating scan workflows is the same as that used to create print workflows, with a workflow editor allowing for total customization. Five default workflows are provided with the scan workflow utility: scan to e-mail, scan to Microsoft Exchange, scan to folder, scan to SharePoint, and Secure Audit OCR e-mail warning. Aside from those templates, however, there is no wizard or pre-programmed functions to use as building blocks as there are with the printer workflow programming; every scan workflow has to be built from scratch with script commands entered within many of the steps. This open platform programming is a strength and a weakness at the same time. On the positive side, there's the flexibility and scope of workflows that can be built and totally customized to a specific customer's needs, while the complexity of the solution is the negative. Because of this, many organizations will need to rely upon the professional services offered by the supplier, which will mean extra charges when new workflows are required.

One of the key differentiators of uniFLOW's scanning workflow lies with the OCR and bar code recognition engine, letting users create sophisticated routing and security filtering workflows. For example, BLI was able to set up a workflow that determined that whenever Project X was detected in a scanned document, the scan process would be halted and an e-mail alert sent to the security officer informing them that

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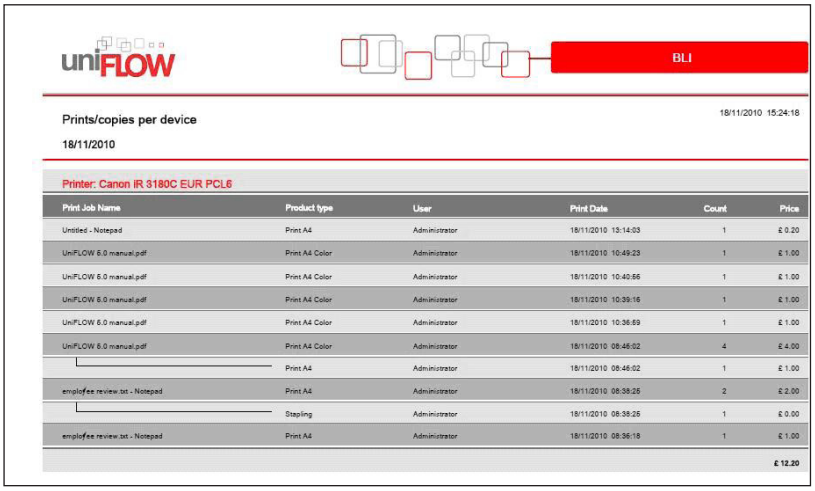
the user had tried to route the sensitive document to an external party. BLI was also able to create an intelligent routing workflow that detected a specific client name within a document and routed the scan file to the respective client folder.

Data Analysis and Reporting ★★★★★

Data analysis and reporting is included within the optional Statistics module and provides a wealth of default reporting formats and a high level of customization. The report module is driven by Crystal Reports, long regarded as one of the best report builders available, and delivers more than 65 canned reports. Reports which can all be fully customized with further conditions based on user, group, cost center and printer criteria. Report categories are users, groups, cost centers, printers, price profiles, print/copy activity, time of day usage, budget, transactions, NTWare Moneyloader, and cost savings.

Reports can be displayed on-screen and also exported as PDF, XLS or RTF files, allowing for further analysis in third-party applications. Within the Server Config utility, admistrators can set up automated reports with the ability to deliver them directly to file locations, an FTP site, or e-mail addresses.

One of the unique reporting features offered is the ability to review cost savings, broken down by devices and users. These can be associated with selection of black-and-white versus color output, duplex versus simplex, and low-cost versus high-click-charge devices. This is a valuable way for administrators to monitor who is making an effort to save money through better print workflow management, and who isn't.


uniFLOW
BLI
Prints/copies per device
18/11/2010
18/11/2010 15:24:18
Printer: Canon IR 3180C EUR PCL6
Print Job Name | Product type | User | Print Date | Count | Price
Untitled - Notepad | Print A4 | Administrator | 18/11/2010 13:14:03 | 1 | £ 0.20
UniFLOW 6.0 manual.pdf | Print A4 Color | Administrator | 18/11/2010 10:49:23 | 1 | £ 1.00
UniFLOW 6.0 manual.pdf | Print A4 Color | Administrator | 18/11/2010 10:40:56 | 1 | £ 1.00
UniFLOW 6.0 manual.pdf | Print A4 Color | Administrator | 18/11/2010 10:39:16 | 1 | £ 1.00
UniFLOW 6.0 manual.pdf | Print A4 Color | Administrator | 18/11/2010 10:36:59 | 1 | £ 1.00
UniFLOW 6.0 manual.pdf | Print A4 Color | Administrator | 18/11/2010 08:46:02 | 4 | £ 4.00
Print A4 | Administrator | 18/11/2010 08:46:02 | 1 | £ 1.00
employee review.txt - Notepad | Print A4 | Administrator | 18/11/2010 08:38:26 | 2 | £ 2.00
Stapling | Administrator | 18/11/2010 08:38:26 | 1 | £ 0.00
employee review.txt - Notepad | Print A4 | Administrator | 18/11/2010 08:36:18 | 1 | £ 1.00
£ 12.20

The built-in reporting engine includes a range of customizable reports, including a rundown of usage stats for a given device.

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Ease of Use

★★★★★

For knowledge workers in an organization, uniFLOW V5 is simple to use, and in many instances employees will not even be aware that software is running on their PC. When uniFLOW is set up for basic accounting, users just continue to use the vendor printer drivers set up for them by IT, with tracking and accounting being conducted in the background; the user is only made aware of its presence if budget limits are exceeded or alerts appear informing the user that budget levels are exceeded. These messages can be generated either by the client Web utility or via the client desktop application.

If secure follow-me printing or rules-/least-cost based printing is being enforced, the user submits their print jobs via a print workflow driven by the uniFLOW Universal Driver. The driver is easy to navigate and includes multiple finishing options including duplex, stapling, hole punch and, new to this version, booklet printing. The Universal Driver is one of uniFLOW V5's key differentiators and is a valuable aid to end users. Unlike rival print management systems, which route print jobs to the central print spooler on the secure print server using each device's PCL/PostScript driver, uniFLOW uses a Universal Driver to route jobs to the uniFLOW V5 central spooler. When the output device has been selected, either through rules-based programming or by a secure follow-me release, any print settings that were selected on the Universal Driver at the time of submission are converted into the print command language, as defined in the specific printer PPD code before being forwarded to the printer. This ensures that print jobs are successfully output irrespective of the device at which they are printed. In contrast, rival solutions send the same job and job ticket irrespective of the device finally selected to complete the job, which can cause conflicts with incorrect print output when different product families from a single vendor or different vendors' products are being used.

Release of secure print jobs is also easy, with a multitude of options available depending upon the type of device selected for outputting of the job(s). From Canon MEAP-enabled MFPs, users simply log in (using network ID/password/smartcard/biometric, according to the environment) to see a complete list of all their jobs in the secure print queue. They can then choose which jobs to print. A further benefit of the uniFLOW secure printing feature is the ability (at Canon MEAP-enabled devices, at least) for the user to make changes to the print job prior to release. For example, if the job was originally submitted in simplex, the user can decide to output the job in duplex mode. The user can also be informed on the MFP's control panel of any features—stapling, for example—originally selected within the Universal Driver that are not supported by the device, so the user can decide whether or not to release the job. And in early 2011, there will be embedded support for uniFLOW on Xerox and other open platform MFPs via an embedded applet.

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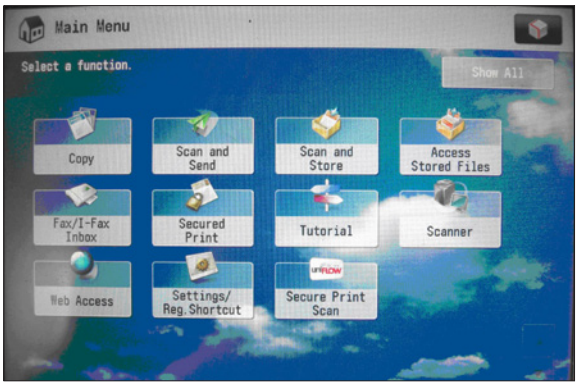
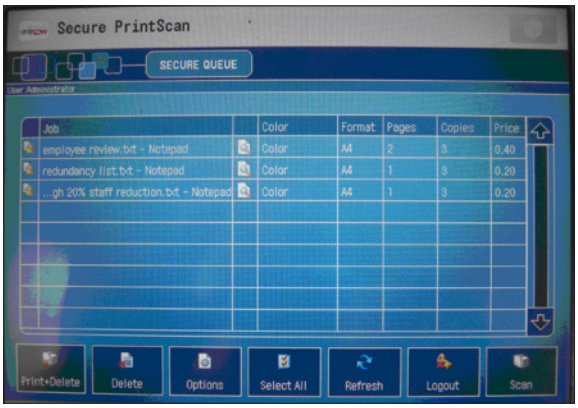
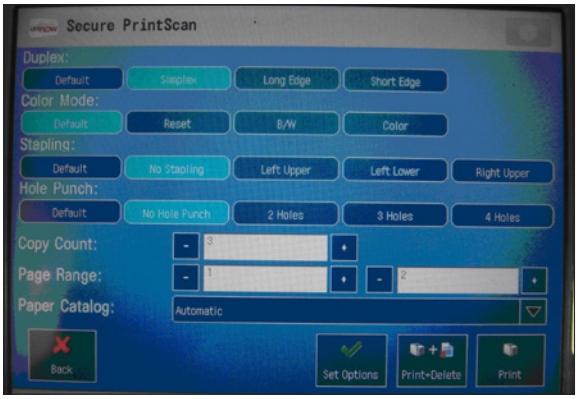
Here's how to use the secure job release feature from a MEAP-enabled MFP:



Users first authenticate themselves at the MFP, and choose the uniFLOW icon on the MFP's touch screen control panel.



All jobs that the user is authorized to print are then listed.



By clicking on a job and selecting "Options," the user can then change job settings including finishing, color mode, media and quantity.

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The same functionality can be achieved on any MFP running eCopy, either embedded or through an external ScanStation. This requires the optional eCopy Secure Print utility module to be installed on the eCopy server. For all other output devices, authentication and secure print job release is enabled using NT-ware external authentication device solutions. These devices act as middleware, sitting between the network and the output device, allowing the user to authenticate at the device using a variety of swipe, PIN entry or biometric systems. The NT-ware MIND device is the more comprehensive of the two options, with the ability to integrate (via USB) with NT-ware MiCard RFID/proximity and magnetic readers plus PIN code readers and biometric authentication devices. The lower cost option is the NT-ware microMIND which, like the MIND box also allows for integration with NT-ware MiCard readers, but does not permit integration with PIN code or biometric readers. The MIND device also includes a copy control cable which can be connected to any MFP (not just Canon devices), and which allows for the collection and feedback to uniFLOW accounting server of all user copy activity on the MFP. There is no ability to choose which jobs the user wants to print, and no ability to make changes to jobs as is available with MEAP-enabled Canon MFPs. The system BLI tested included an HP printer connected with a MIND box and PIN code reader / RFID card reader authentication solution.

With Interactive Rules Based Routing enforced, users are given a list of print options with a price associated with each device so that users can choose whether or not they wish to save money by choosing the defaulted lowest cost option or whether they want to move to a more expensive printer alternative. This feature ties in with the statistics module and allows administrators and department managers to run reports that detail user print spend, including how much has been wasted through the selection of high-cost units.

With rules-based routing, users are not given the option of which device their print jobs will be sent to, but are informed where through a pop-up message.

If the organization is using cost codes users first receive a pop-up message when they attempt to print a document or when they try to make a copy on a MEAP-enabled Canon MFP. The user only sees cost centers that they are allowed to bill against, which streamlines the selection process.

Compatibility

★★★★½

On the hardware front, uniFLOW V5 supports accounting control over all networked devices from all vendors. Secure printing and rules based routing, which requires the use of the uniFLOW Universal Driver is supported on all Canon printers and MFP devices (not just MEAP devices) and HP single-function printers by default. Integration of the uniFLOW universal driver with PDLs from other vendors is also supported out of the box. Canon informed BLI that embedded uniFLOW support providing the

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follow-me printing, secure printing and cost center/budget control audited print job submission functionality will be available for integration with Xerox and other vendors' MFPs (with open architecture support) throughout 2011. Secure printing can also be driven on non-Canon MFPs that have eCopy installed, either embedded or via an external ScanStation. To take advantage of this, the optional eCopy Secure Print module needs to be purchased (one licence per device). However, the ability to change job settings and scanning workflow support will not be supported on the third-party devices.

Device authentication can be accomplished in multiple ways. Through Canon MEAP-enabled MFPs (and selected non-MEAP-enabled Canon MFPs via a uniFLOW embedded client), users can authenticate directly from the touch screen by entering a PIN or via their network/LDAP user name and password, depending on security protocols. Users can also be authenticated by smartchip/magnetic swipe and proximity/RFID cards (including Legic, Mifare, HID and Hi-tag), using a selection of hardware options called Device Agents. These Device Agents can range from embedded solutions for Canon MFPs to networked or USB-connected devices for desktop printers from any vendor.

If more than 10 concurrent connections are required, the server component runs on Windows Server 2000 or 2003 Server; for smaller installations, it can run on Windows XP or Windows 2000 Professional. Novell Netware for Remote Print Servers is also supported.

The client operates across a wide range of operating platforms including Windows 2000/XP/2003/Vista, Macintosh, Linux and UNIX. The client application and uniFLOW Universal Drivers are available for Windows and Mac operating platforms.

Software Integration

★★★★½

uniFLOW integrates with a wide range of user management options including full integration with Active Directory, LDAP, Novell NetWare, Windows, and more. In addition, the program can import and export user, group and cost center data via XML files. There is also an SQL connector which can be used to import users, groups, cost centers and so on. It can also import a file-based or a SQL server-based PAS database. Both of these facilities are found within the Server Config/Interface tabs of the Server application.

uniFLOW V5 integrates with a solution for education called MoneyLoader. This allows students to deposit money into their uniFLOW V5 account. It supports different authentication options via a contactless card reader or an integrated keyboard. uniFLOW V5 also integrates with IPC PayCon, ICS and Netcard payment systems. With the Internet Gateway module, users can make payments to their account over

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the Internet using credit cards, PayPal, RBS Worldpay, and more. This would be especially valuable for higher education environments where students and family members can replenish accounts remotely.

While V5 of uniFLOW no longer offers the production print/CRD modules, NT-ware reports that the platform does integrate with its Helix Production Workflow offering. This production workflow and Web-to-print solution incorporates a range of features including enhanced job submission, document make-ready, workflow management and improved support for large format printing.

NT-ware does not make an SDK or API kit readily available to software developers, but advises that it prefers to work individually with companies wishing to integrate with uniFLOW to ensure successful integration.

Security

★★★★★

uniFLOW V5 provides a high level of security, with users having to authenticate themselves for copying, printing, scanning and faxing, thus allowing administrators to trace every job back to its owner, eliminating unauthorized printing and copying, elevating overall document security and providing an audit trail for compliance purposes.

uniFLOW V5 also offers blanket function lock-down via Access Control Lists (ACL). Administrators can create these with an allowed list and a denied list of users or groups, and can then be associated with specific functions within the access control menu such as color printing, scanning, etc. The ACL can be applied across the entire fleet of devices by using the Access Control on the Server Config menu, or applied on a device by device basis.

A wide range of authentication methods are supported, including PC login, PIN or user login entered at the device or via multiple card reader options such as magnetic strip, Smart/RFID proximity cards (including Legic, Mifare, HID and Hi-tag) or, with an optional module, biometric fingerprint identification.

uniFLOW V5 includes a number of security enhancements over the previous version, including direct integration with Canon Secure Audit Manager (SAM), which provides a complete audit history of all device activity linked to the user, so that any security breaches can be traced back to the guilty party. While this provides a useful means of investigation after a breach, the greater advantage that V5 offers is due to the embedded I.R.I.S OCR software and sophisticated rules management capabilities.

With these, security officers can police and control access to company-critical information, locking down usage to authorized users only. For example, BLI was able to

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create a secure audit workflow that looked at the content of all scan jobs and filtered documents based on whether or not they contained specific words such as new product information or sensitive contract negotiations. Using this resource, security officers can lock down scan, copy (through scan and print workflow usage) and print access to any document containing a specific word. The workflow can be set up so security officers are immediately sent an e-mail when someone is attempting to copy, print or scan a sensitive restricted-access document, informing them that the breach has been attempted and indicating who the guilty person is.

Reseller Support and Training ★★★★★

uniFLOW is sold by Canon's direct and authorized independent reseller channels. Resllers can choose the extent to which they wish to get involved with the uniFLOW sales process. At the most basic level, the reseller can act as a sales agent identifying sales opportunities, with pre-sales and post-sales activity being handled by Canon. Alternatively, NT-ware and local Canon operating companies can provide multiple levels of reseller sales and support certification, which are chargeable items. Location, types and costs of training vary depending on the region.

NT-ware also provides a partner portal called ITS (Issue Tracking System), which includes extensive training materials, blogs and other useful information resources. The site is divided up into five main areas. The NT-ware Community is a community group with Read and Write Access for all ITS security groups. Here, all participants can ask questions and access "how-tos," discuss problems and mutually support each other. NT-ware says it monitors this part of the ITS and comments on issues, but an answer from NT-ware is not guaranteed. Anyone with writing access for the community platform will be able to create an issue, comment on issues and search for issues. In addition, everyone with access to the community will be automatically informed about any issue creation or comments.

There's also the NT-ware Pre-sales area of the portal, where pre-sales inquiries regarding feasibility, cost of development, projected development time, and so on can be posted. The right to post pre-sales inquiries is reserved for certified Technical Specialists.

The NT-ware Knowledgebase is used to structure and distribute How Tos, FAQs, articles, descriptions, download information, release notes and so on. Read access is open to all ITS groups, write access is limited to only Canon and NT-ware. The portal also contains links to Local Support Areas; a local support area can be created for each National Sales Organization (NSO) on request, and the local language can be used.

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Customer Support and Training

★★★★★

Customer technical support and training is provided by Canon and its channel partners through a professional services agreement. Phone, onsite and Web-based technical support for end users is dependent upon the individual Canon NSO. For example, in the U.S., phone support is provided business days between 9 a.m. and 6 p.m. Eastern Time, with Web-based support available 24/7. Unlike other software developers, NT-ware does not provide access to the knowledgebase on its site for end users. NT-ware informed BLI that it provides third- and fourth-level support across three continents (Europe, US and Singapore) for round-the-clock response.

BLI called Canon UK for technical support to assess the level of response. A representative answered, logged the reason for the call and provided a reference number. A call came back from a member of the software support specialist team within 30 minutes. The representative logged into our server using a remote-access application, quickly determined the issue we had, and resolved the issue promptly. There was no charge for the service.

Documentation

★★★★½

uniFLOW V5 comes with a comprehensive user manual (1,209 pages in the English version), which is downloadable from the server Web main page by first clicking on the Info button at the bottom of the page. The user can choose to view the user manual electronically, using its full-text search capability, or download the 67-MB manual to the desktop for offline use or printing. The manual is well laid out with a comprehensive index. We found the instructions well written, with helpful screenshots to guide users through setup tasks. The manual has a table of contents at the front which is fully hyperlinked to the relevant area of the manual, and hyperlinks in the main body of the manual refer the user to other areas of the manual that cross-reference an issue.

While the documentation is thorough, a more integrated approach to the help functionality would be preferable. For example, it would be better if users were able to click on a help button when encountering an issue relating to a specific task to view relevant pages specific to the task being performed, rather than having to go to the manual, research the solution and then return to the project. BLI found it easier to print a copy of the manual and use this in conjunction with setting up new workflows and users, and so on.

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Global Business Readiness

★★★★★

uniFLOW V5 is sold globally through Canon and its reseller partners in North America, Europe, Asia-Pacific, the Middle East and Africa.

More impressive is the fact that the application itself is written in Unicode and supports full installation in 30 languages. To aid multi-lingual offices, the walkup experience at a Canon MEAP-enabled device can also be utilized via the Canon Language Keyboard switch, which allows walk-up users to select from a list of firmware-supported languages. The language selected is also reflected in the uniFLOW MEAP application. However, the user manual is available in only five languages (English, French, Italian, German, Spanish).

Upgrade Path

★★★★★

uniFLOW is a highly modular solution that is essentially impossible for an organization to outgrow. Should a company need to add more user licenses or additional functionality, it is easy to do so.

NT-ware says that major releases (including minor “dot” releases) come out every one to two years, while minor service releases come out three to four times per year.

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